

Beibei Li

Assistant Professor in IT and Management
Anna Loomis McCandless Chair
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Education

Ph.D. (with distinction), Information Systems, Stern School of Business, New York University, 2008-2012.
M.S., Computer Science, University of Kentucky, 2007.
B.S./M.S. (with distinction), Computer Science (Minor: Fashion Design), Donghua University, Shanghai, 2005. (Rank 1st out of 500 students, GPA: 3.9/4.0)

Professional Employment

- **Carnegie Mellon University** 2012.9 - Now
Assistant Professor in IT and Management
Anna Loomis McCandless Chair 2015.11 - Now
- **Summer Intern, Microsoft Research, Redmond, WA** 2008.6 - 2008.8
Intern at Microsoft Research local search team, worked on US housing market forecast using econometric and spatio-temporal modeling.

Research Interests

- Topics: Mobile and Sensor Technologies, Smart Health and Smart Cities, Digital Marketing, Social Media, Search Engines.
- Methodologies: Econometrics, Machine Learning, Text Mining & Image Analysis, Spatial and Temporal Data Mining, Randomized Experiment, Structural Econometric Modeling, Bayesian Modeling.

Academic Honors & Awards

- NSF EAGER Award. 2016.
- Anna Loomis McCandless Chair at Carnegie Mellon University. 2015.
- Junior Researcher Award. Big Data Marketing Conference. 2015.
- Adobe Faculty Research Award. 2015.
- Google Faculty Research Award. 2015.
- INFORMS ISS Nunamaker-Chen Dissertation Award. 2013.
- Herman E. Krooss Doctoral Dissertation Award. 2013.
- ACM SIGMIS Doctoral Dissertation Award. 2012.
- Best Theme Paper Award. ICIS 2012. Orlando, FL.
- Best Paper Award, International World Wide Web Conference, WWW 2011.
- Selected to the ICIS Doctoral Consortium. Dec. 2011, Shanghai.
- Selected to the Columbia-Duke-UCLA Workshop on Quantitative Marketing and Structural Econometrics (QuantCamp). Duke University, Aug. 2010.
- ICDE PhD Workshop Fellowship Award. 2010.
- PhD Fellowship, Stern School of Business, New York University, 2008-2012.
- Best Paper Award, 20th Annual EKV Symposium in the Mathematical, Statistical and Computer Sciences, Mar, 2006, Richmond, KY.
- 3rd Place for the Microsoft Cup Software Design Competition, 2004, Shanghai.
- 3rd Place for the ACM International Collegiate Programming Contest, 2002, Shanghai.
- Talented Undergraduate Award (1st out of approximately 4000 students), 2003, Shanghai.

Research Grants

- NSF EAGER Award on Smart and Connected Communities. \$230,751. 2016-2018.
- Pennsylvania Infrastructure Technology Alliance Grant (PITA). 2017-2018.
- Berkman Faculty Award. Carnegie Mellon University. \$4,100. 2016.
- Google Faculty Research Award. \$66,000. 2015.
- Adobe Faculty Research Award. \$50,000. 2015.
- Marketing Science Institute Grant. 2015.
- Traffic21 Faculty Research Grant. Carnegie Mellon University. \$24,030. 2015-2016.
- Berkman Faculty Award. Carnegie Mellon University. \$5,100. 2015.
- PNC Center for Financial Services Innovation Research Grant. \$20,000. 2013-2015.
- WCAI-Wharton Customer Analytics Initiative Research Opportunity Grant Award. 2012-2013.

Patents

- Apparatus, system, method and computer-readable medium for performing a product search using user-generated and crowd-sourced content. Li, B., A. Ghose, P. Ipeirotis, International Publication Number WO 2012/064661 issued May 2012.
- System, method and computer accessible medium for determining one or more effects of rankings on consumer behavior. Li, B., A. Ghose, P. Ipeirotis. 239099.US.02-32882-219651. *Pending*. 2016.

Teaching

- **Instructor in Heinz College, Carnegie Mellon University**
Business Intelligence and Data Mining with SAS (Master Level) *Fall 2012-Now*
- **Instructor in Heinz College, Carnegie Mellon University**
Data Warehousing (Master in Business Analytics Core Course) *Fall 2012 -Now*
- **Instructor in Stern School of Business, New York University**
Information Technology in Business and Society (Undergraduate Core Course) *Summer 2012*
- **Teaching Fellow in Stern School of Business, New York University**
Information Technology in Business and Society *Fall 2008, Spring 2011*

Selected Working Papers

1. Empowering Patients Using Smart Mobile Health Platforms: Evidence from A Randomized Field Experiment. 2017. (with Anindya Ghose and Xitong Guo)
2. Learning Individual Behavior Using Sensor Data: The Case of GPS Traces and Taxi Drivers. 2017. (with Yingjie Zhang and Ramayya Krishnan)
3. Mobile Targeting Using Customer Trajectory Patterns. 2017. (with Anindya Ghose and Siyuan Liu)
4. Modeling User Engagement in Mobile Content Consumption with Tapstream Data and Field Experiment. 2017. (with Yingjie Zhang, Xueming Luo)
5. Modeling Consumer Footprints on Search Engines: An Interplay with Social Media. 2017. (with Anindya Ghose and Panos G. Ipeirotis)
6. A Tangled Web: The Impact of Displaying Fraudulent Reviews on Product Search Engines. 2016. (with Uttara Ananthakrishnan and Michael D. Smith)

Selected Work-in-Progress Papers

- The Impact of Mobile Channel Adoption On Customer Omni-Channel Banking Behavior. 2017. (with Vibhanshu Abhishek and Jun Liu)
- When the Bank Comes to You: Branch Network and Customer Multi-Channel Banking Behavior. 2017. (with Vibhanshu Abhishek and Dan Geng)
- Using TB-Sized Data to Understand Multi-Device Advertising. 2017. (with Quan Wang, Pengyuan Wang & Jimmy Yang (Yahoo! Labs))
- All World's a Home - Estimating Hotel Latent Quality under Airbnb Entry. (with Uttara Ananthakrishnan)

and Michael D. Smith)

- Peer-to-Peer Transportation Platforms, Consumer Mobility, and Urban Consumption Patterns. 2017. (with Zhe Zhang)
- Nudging Mobile Customers with Real-Time Social Dynamics. 2017. (with Anindya Ghose and Siyuan Liu)

Journal Publications

1. Copycats versus Original Mobile Apps: A Machine Learning Copycat Detection Method and Empirical Analysis. 2017. *Information Systems Research*. Forthcoming. (with Quan Wang and Param Vir Singh)
2. Examining the Impact of Contextual Ambiguity on Search Advertising Keyword Performance: A Topic Model Approach. 2017. *MIS Quarterly*. (with Vibhanshu Abhishek and Jing Gong)
3. Using Online Geotagged and Crowdsourced Data to Understand Human Offline Behavior in the City: An Economic Perspective. 2017. *ACM Transactions on Intelligent Systems and Technology (ACM TIST) Special Issue on Urban Intelligence*. Forthcoming. (with Yingjie Zhang and Jason I. Hong)
4. The Impact of Car Specifications, Prices and Incentives for Battery Electric Vehicles in Norway: Choices of Heterogeneous Consumers. *Transportation Research Part C: Emerging Technologies*. 2016. (with Yingjie Zhang, Sean Qian, and Frances Sprei. Top journal in transportation research)
5. Examining the Impact of Ranking on Consumer Behavior and Search Engine Revenue. *Management Science*. 2014. (with Anindya Ghose and Panagiotis G. Ipeirotis)
6. Designing Ranking Systems for Hotels on Travel Search Engines by Mining User-Generated and Crowd-Sourced Content. *Marketing Science*. 2012(31), 493-520. (with Anindya Ghose and Panagiotis G. Ipeirotis)

Conference Publications

- A Quasi-experimental Estimate of the Impact of P2P Transportation Platforms on Urban Consumer Patterns. In *Proceedings of the 23th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD)*, Halifax, NS, Canada, August 13–17, 2017. (with Zhe Zhang)
- The Impact of Mobile Adoption on Customer Omni-Channel Banking Behavior. In *Proceedings of the International Conference on Information Systems (ICIS)*, Dublin, 2016. (with Jun Liu, Vibhanshu Abhishek)
- Using TB-Sized Data to Understand Multi-Device Advertising. In *Proceedings of the International Conference on Information Systems (ICIS)*, Dublin, 2016. (with Quan Wang, Pengyuan Wang)
- Modeling User Engagement in Mobile Content Consumption with Tapstream Data. In *Proceedings of the International Conference on Information Systems (ICIS)*, Dublin, 2016. (with Yingjie Zhang, Xueming Luo)
- Understanding User Economic Behavior in the City Using Large-scale Geotagged and Crowdsourced Data. *Forthcoming in Proceedings of the 25th International World Wide Web Conference (WWW)*, Montreal, Canada, April 2016. (With Yingjie Zhang and Jason Hong)
- A Tangled Web: Evaluating the Impact of Displaying Fraudulent Reviews. In *Proceedings of the International Conference on Information Systems (ICIS)*, Dallas TX, 2015. (With Uttara Ananthkrishnan and Michael D. Smith) **Best Paper Award Nominee**
- Digitizing Offline Shopping Behavior Towards Mobile Marketing. In *Proceedings of the International Conference on Information Systems (ICIS)*, Dallas TX, 2015. (With Anindya Ghose and Siyuan Liu)
- Learning from the Offline Trace: A Case Study of the Taxi Industry. In *Proceedings of the International Conference on Information Systems (ICIS)*, Dallas TX, 2015. (With Yingjie Zhang, Ramayya Krishnan)
- When the Bank Comes to You: Branch Network and Customer Multi-Channel Banking Behavior. In *Proceedings of the International Conference on Information Systems (ICIS)*, Dallas TX, 2015. (With Vibhanshu Abhishek and Dan Geng)
- Perils of Uncertainty? The Impact of Contextual Ambiguity on Search Advertising Keyword Performance.

In *Proceedings of the International Conference on Information Systems (ICIS)*, New Zealand 2014. (With Vibhanshu Abhishek and Jing Gong)

- Zoom in iOS Clones: Examining the Antecedents and Consequences of Mobile App Copycats. In *Proceedings of the International Conference on Information Systems (ICIS)*, New Zealand 2014. (With Quan Wang and Param Vir Singh)
- Search Less, Find More? Examining Limited Consumer Search with Social Media and Product Search Engines. In *Proceedings of the International Conference on Information Systems (ICIS)*, Orlando 2012. (with Anindya Ghose and Panagiotis G. Ipeirotis) **Best Theme Paper Award**
- Towards a Theory Model for Product Search. In *Proceedings of the 20th International World Wide Web Conference (WWW)*, Hyderabad, India, March 2011. (with Anindya Ghose and Panagiotis G. Ipeirotis) **Best Paper Award**
- Designing Ranking Systems for Hotels on Travel Search Engines to Enhance User Experience. In *Proceedings of the International Conference on Information Systems (ICIS 2010)*, St. Louis, December. (with Anindya Ghose and Panagiotis G. Ipeirotis)

Papers in Workshops and Conference Programs

- Bike Sharing and Car Trips in the City: The Case of Healthy Ride Pittsburgh. *Workshop on Information Technology and Systems (WITS)*. 2016. (with Konstantinos Pelechrinis, Sean Qian)
- Peer-to-Peer Transportation Platforms, Consumer Mobility, and Urban Consumption Patterns. *Workshop on Information Systems and Economics (WISE)*. 2016. (with Zhe Zhang)
- Modeling User Engagement in Mobile Content Consumption with Tapstream Data. *INFORMS Conference of Information Systems and Technology (CIST)*, *CODE@MIT*. 2016. (with Yingjie Zhang, Xueming Luo)
- Mobile Advertising and Real-Time Social Dynamics. *INFORMS Marketing Science Conference*. 2016. (with Anindya Ghose, Siyuan Liu)
- Learning from the Offline Trace: A Case Study of the Taxi Industry. *The Symposium on Statistical Challenges in Electronic Commerce Research (SCECR)*. 2016. (With Yingjie Zhang, Ramayya Krishnan)
- When Structural Model Meets Big Data: Examining Multi-Device Attribution for Native Ads Using TB-Sized Data. (*WISE*) 2015. (with Quan Wang, Pengyuan Wang, Jimmy Yang)
- All World's a Home - Estimating Hotel Latent Quality under Airbnb Entry. (*WISE*) 2015. (With Uttara Ananthakrishnan and Michael D. Smith) **Best Student Paper Award Runner-up**
- Mobile Advertising and Real-Time Social Dynamics: Evidence from a Field Experiment. *CODE@MIT*. Oct. 2015.
- A Tangled Web: The Impact of Displaying Fraudulent Reviews on Product Search Engines. *China Summer Workshop on Information Management (CSWIM)*, June 2015. Hefei, China. (With Uttara Ananthakrishnan and Michael D. Smith)
- A Tangled Web: The Impact of Displaying Fraudulent Reviews on Product Search Engines. *Winter Conference on Business Intelligence (WCBI)*, March, 2015, Salt Lake City, Utah. (With Uttara Ananthakrishnan and Michael D. Smith)
- Understanding Impact of Urban Accessibility on Small Business Using Traffic and Human Mobility Analytics. *Workshop on Information Technology and Systems (WITS)*, December 2014. New Zealand. (With Yingjie Zhang and Jason I. Hong)
- Mobile Trajectory-Based Advertising: Evidence from a Large-Scale Randomized Field Experiment. *Workshop on Information Systems and Economics (WISE)*, December 2014. New Zealand. (With Siyuan Liu and Anindya Ghose)
- Perils of Uncertainty? The Impact of Contextual Ambiguity on Search Advertising Keyword Performance. *INFORMS Conference of Information Systems and Technology (CIST)*, November 2014, San Francisco, CA. (With Vibhanshu Abhishek and Jing Gong) **Best Student Paper Award**

- Zoom in iOS Clones: Examining the Impact of Copycats on Mobile App Downloads. *INFORMS Conference of Information Systems and Technology (CIST)*, November 2014, San Francisco, CA. (With Param Vir Singh and Quan Wang)
- Perils of Uncertainty? The Impact of Contextual Ambiguity on Search Advertising Keyword Performance. *China Summer Workshop on Information Management (CSWIM)*, June 2014. (With Vibhanshu Abhishek and Jing Gong) **Best Paper Award Runner-up**
- Examining the Impact of Contextual Ambiguity on Search Advertising Keyword Performance: A Topic Model Approach. *INFORMS Marketing Science Annual Conference*, June 2014, Atlanta GA. (with Vibhanshu Abhishek and Jing Gong)
- Examining the Impact of Contextual Ambiguity on Search Advertising Keyword Performance: A Topic Model Approach. *Winter Conference on Business Intelligence (WCBI)*, March, 2014, Salt Lake City, Utah. (with Vibhanshu Abhishek and Jing Gong)
- Surviving Social Media Overload: Predicting Consumer Footprints on Product Search Engines. *Workshop on Information Systems and Economics (WISE 2012)*, Orlando 2012. (with Anindya Ghose and Panagiotis G. Ipeirotis)
- Search Less, Find More? Examining Limited Consumer Search with Social Media and Product Search Engines. *INFORMS 2012, Phoenix, AZ.* (with Anindya Ghose and Panagiotis G. Ipeirotis)
- Designing Ranking Systems for Hotels on Travel Search Engines by Mining User-Generated and Crowd-Sourced Content. *FRANK M BASS UTD FORMS Conference*, Feb. 2012. Dallas, TX. (with Anindya Ghose and Panagiotis G. Ipeirotis)
- Examining the Impact of Search Engine Ranking and Personalization on Consumer Behavior: Combining Bayesian Modeling with Randomized Field Experiments. *Workshop on Information Systems and Economics (WISE 2011)*, Shanghai, December, 2011. (with Anindya Ghose and Panagiotis G. Ipeirotis)
- Designing Ranking Systems for Hotels on Travel Search Engines by Mining User-Generated and Crowd-Sourced Content, *6th bi-annual Conference on The Economics of Intellectual Property, Software and the Internet*, Toulouse, France, January 2011. (With Anindya Ghose and Panagiotis G. Ipeirotis)
- Extracting Economic Value from Online User-Generated Content: Combining Text Mining with Demand Estimation in the Hotel Industry. In *Proceedings of the 32nd INFORMS Marketing Science Conference*, Cologne, Germany, June 2010. (with Anindya Ghose and Panagiotis G. Ipeirotis)
- Mining User-Generated and Crowd-Sourced Content on the Internet to Estimate Demand for Hotels. *The Sixth Symposium on Statistical Challenges in Electronic Commerce Research (SCECR 2010)*. Austin, TX, June 2010. (With Anindya Ghose and Panagiotis G. Ipeirotis)
- Improving Product Search with Economic Theory. *International Conference on Data Engineering (ICDE 2010) PhD Workshop*, Long Beach, CA, March 2010.
- The Economic Impact of User-Generated Content on the Internet: Combining Text Mining with Demand Estimation in the Hotel Industry. *Workshop on Information Systems and Economics (WISE 2009)*, Phoenix, 2009. (with Anindya Ghose and Panagiotis G. Ipeirotis)
- Towards Designing Ranking Systems for Hotels on Travel Search Engines: Combining Text mining with Demand Estimation in the Hotel Industry. *Workshop on Information Technology and Systems (WITS 2009)*, Phoenix, 2009. (with Anindya Ghose and Panagiotis G. Ipeirotis)
- Stay Elsewhere? Improving Local Search for Hotels Using Econometric Modeling and Image Classification. *WebDB 2008*, in conjunction with *ACM SIGMOD/PODS 2008*, Vancouver, Canada. (with Anindya Ghose and Panagiotis G. Ipeirotis)
- Stay Elsewhere? The Economic Impact of Location-based Hotel Features: A View from Remote Sensing Image Analysis. *Winter Conference on Business Intelligence (WCBI)*, March, 2008, Salt Lake City, Utah. (with Anindya Ghose and Panagiotis G. Ipeirotis)

Invited Talks

- Robert H. Smith School of Business, University of Maryland. (TBD)
- Goizueta Business School, Emory University (Marketing). (TBD)
- Krannert School of Management, Purdue University. (TBD)
- Booth School of Business (Marketing), University of Chicago. (March 2016)
- Foster School of Business, University of Washington, Seattle. (April 2016)
- Google Inc. Pittsburgh. (Jan 2016)
- Tepper School of Business, Carnegie Mellon University. (Dec. 2015)
- Smeal School of Business, Penn State University. (Oct. 2015)
- Eli Broad College of Business: Michigan State University. (Oct. 2015)
- Shanghai University of Finance and Economics. (July 2015)
- School of Business (Marketing), Chinese University of HK. (July 2015)
- School of Management, Fudan University. (July 2015)
- Singapore Management University. (July 2015)
- Fox School of Business (Marketing), Temple University. (May 2015)
- Rady School of Management, UC San Diego. (Mar. 2015)
- Scheller College of Business, Georgia Institute of Technology. (Oct 2014)
- McCombs School of Business, UT Austin. (Sept. 2014)
- Heinz Think BIG Event. Carnegie Mellon University. (Sept. 2014)
- Nanyang Technological University. (July 2014)
- Shanghai University of Economics and Finance. (July 2014)
- Alibaba Inc. (June 2014)
- Singapore Management University. (June 2014)
- Heinz College Monday Seminar Series, Carnegie Mellon University. (Feb. 2014)
- Gatton College of Business and Economics (Marketing), University of Kentucky. (Feb. 2014)
- Machine Learning and Social Science Seminar Series, Carnegie Mellon University. (April 2013)
- Carlson School of Management, University of Minnesota. (Nov. 2012)
- CMU Job Talk. (Nov. 2011)
- Towards a Theory Model for Product Search. *Baidu, Inc.* (June 2011) Beijing, China.
- A Demo Search Engine for Products. *The 20th International World Wide Web Conference (WWW 2011)*, Hyderabad, India, March 2011.
- A Demo for Product Search. *Day 1: Technology Expo*, NYU. November 2010.
- Designing Ranking Systems for Hotels on Travel Search Engines by Mining User-Generated and Crowd-Sourced Content. *The 10th Anniversary for Department of Information, Operations & Management Science (IOMS), Stern School of Business, NYU.* October, 2010.
- Designing Ranking Systems for Hotels on Travel Search Engines. *New York Computer Science and Economics Day.* The New York Academy of Sciences, World Trade Center, New York City, 2010.
- Extracting Economic Value from Online User-Generated Content: Combining Text Mining with Demand Estimation in the Hotel Industry. *New York Computer Science and Economics Day.* The New York Academy of Sciences, World Trade Center, New York, NY. 2009.
- Improving Local Search for Hotels Using Econometric Modeling and Image Classification. *Microsoft Virtual Earth Award Summit*, May 2008, Redmond, WA.

Synergistic Activities

- **Ad-hoc AE** – MISQ, ICIS, CIST
- **Journal Reviewer & Grant Reviewer** – Management Science, Information Systems Research, MIS Quarterly, Marketing Science, MIT Sloan Management Review, Journal of Management Information Systems, Marketing Letters, Decision Support Systems, Journal of Information Economics and Policy,

Journal of Computing, Transactions on Management Information Systems, Transactions on Intelligent Systems and Technology, Artificial Intelligence. Hong Kong Research Grant Council, NSF.

- **Program Committee & Session Chair** – INFORMS Annual Conference 2012, 2013, 2014, 2015, 2016; Workshop on Information Systems and Economics (WISE) 2012, 2014; INFORMS Conference on Information Systems and Technology (CIST) 2013, 2014, 2015, 2016; China Summer Workshop on Information Management (CSWIM) 2013, 2014, 2015; International Conference on Information Systems (ICIS) 2014, 2015, 2016; ACM Conference on Economics and Computation (EC) 2016.
- **Conference Co-Chair** – INFORMS Conference on Information Systems and Technology (CIST) 2017; Structural Model Applications for Research in Technology (SMART) 2014, 2015, 2017.
- **Member** – Association of Information Systems (AIS), INFORMS Information Systems Society (ISS), INFORMS Society of Marketing Science (ISMS).

Service Awards

- ISR/ISS Best Reviewer of the Year. 2015.
- Management Science Distinguished Service Award. 2013.

Doctoral Students Supervision

- Quan Wang (CMU Heinz, 6th year, Chair)
- Yingjie Zhang (CMU Heinz, 4rd year, Chair)
- Uttara Ananthakrishnan (CMU Heinz, 4rd year, co-Chair with Michael D. Smith)
- Zhe Zhang (CMU Heinz, 4th year, co-Chair with Vibhanshu Abhishek)
- Runshan Fu (CMU Heinz, 2nd year, co-Advisor)
- Sonam Samat (CMU Heinz, Dissertation Committee, first position: Data Scientist at Facebook)
- Francisco Cisternas Vera (CMU Tepper Marketing, first position: Assistant Professor in Marketing at Chinese University of Hong Kong, Dissertation Committee)
- Jing Gong (CMU Heinz, first position: Assistant Professor in Information Systems at Fox School of Business, Temple University, Dissertation Committee)
- Jun Liu (SMU, Dissertation Committee, first position: Researcher at A*STAR (Agency for Science, Technology and Research))

Skills & Extracurricular Interests

- C/C++, SQL, MATLAB, R, STATA, SAS EM, Windows, Linux, HTML, JavaScript.
- Language: English (Fluent) & Mandarin (Native)
- President of Department of Public Relations and Social Activity, Donghua University, 2003~2005.
- I was a Ping-Pong Champion in high school and in college.
- I play violin, and minored in fashion design in college. Before my academic life, I used to work as a part-time fashion model in Shanghai. I won Bronze Medal in the International Fashion Model Competition in 2003, Shanghai.